

# **MONTANA**

## **INTERAGENCY SMOKE MANAGEMENT COMMUNICATION STRATEGY**

- for the -

Mitigation of Smoke Effects and Public Health Protection from Wildland Fires  
Under Appropriate Management Response

Spring 2008

Approved by the  
Northern Rockies Coordination Group

- on -

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### **PARTICIPANTS**

USDI, Bureau of Land Management,  
USDI, National Park Service,  
USDI, Fish and Wildlife Service,  
USDI, Bureau of Indian Affairs  
USDA, Forest Service, Region One  
State of Montana

## **EXECUTIVE SUMMARY**

This Communication Strategy establishes a protocol for coordination between the Federal Land Managers (FLMs) and the Montana Department of Environmental Quality (DEQ). These parties wish to establish public outreach and education regarding wildland fire, which includes information about the natural role of wildland fire in ecosystem maintenance, restoration, appropriate management response, and the effects of smoke on public health. FLMs and DEQ also wish to establish methods of communication and coordination to take actions that minimize smoke effects and to provide information to assist the public to take reasonable precautions during wildfire events.

### **This Communication Strategy is intended to:**

- Clarify roles and responsibilities;
- Promote public education regarding the natural role of wildland fire;
- Address public health considerations;
- Identify conditions which trigger coordination activities;
- Provide examples of potential management actions which address smoke impacts;
- Provide for interagency information exchange for smoke management and air quality planning purposes; and
- Provide for evaluation and revision as necessary.

### **This Communication Strategy is NOT intended to:**

- Act as a legally-enforceable document;
- Constitute compliance to Best Available Control Technology (BACT);
- Require certain fire management response activities;
- Increase the burden of smoke management activities at the field level;
- Circumvent or otherwise invalidate activities of the MT/ID State Airshed Group; or
- Substitute for any state or county air quality permit / authorizations.

## **Background**

Following the 2007 wildfire season, the states of Idaho and Montana petitioned the Northern Rockies Coordinating Group (NRCG) to discuss federal land manager (FLM) compliance to the Montana Best Available Control Technology (BACT) requirements for smoke mitigation from wildland fire use (WFU) events. Due to the nature of WFU events, increasing summer fire severity, and the national movement toward managing wildland fire under Appropriate Management Response (AMR), it became imperative to develop an interagency communication strategy to address smoke impacts from all wildland fires.

## **Purpose**

The purpose of this communication strategy is to promote public understanding of the complexity of wildland fires managed under AMR and to establish a protocol for coordination between FLMs and DEQ to share information and to promote actions that minimize smoke impacts for the protection of public health.

The guiding principles of the 2001 Federal Fire Policy adopted by the U.S. EPA, FLMs, and the National Association of State Foresters include: "Firefighter and public safety as the first priority in every fire management activity" and "Fire management plans and activities incorporate public health and environmental quality considerations." Accordingly, the mutual goal of both wildland and air quality managers is to consider conditions and pursue appropriate actions to prevent unhealthy air quality levels from occurring or to mitigate adverse public health effects caused by unhealthy air quality levels.

Because smoke emissions from wildland fire typically affects most Montana airsheds, DEQ believes consistency in FLM approach is critical to address smoke impacts and to provide air quality protection / smoke management coordination activities.

This communication strategy will be reviewed and, if necessary, revised no later than June 1 of each year.

## **Communication Strategy**

During periods of poor atmospheric dispersion, deteriorating ambient air quality, and extreme wildland fire conditions, FLMs and DEQ will communicate to identify conditions, consider consequences, and, when appropriate, implement smoke emission avoidance strategies that include the full spectrum of AMR responses to newly discovered and/or existing wildland fires as quickly as practicable. Smoke emission avoidance strategies must remain flexible to respond to the changing needs and priorities of both FLMs and DEQ.

Specifically, FLMs and DEQ will implement this communication strategy that involves the following three Management Actions as part of the procedures for managing wildland fires under AMR:

- (1) FLMs and DEQ will contact each other when unhealthy air quality conditions exist or when periods of poor atmospheric dispersion are predicted **[Contact]**;
- (2) FLMs will reinforce existing federal guidance and applicable legal regulations in wildland fire planning and implementation documents e.g. Wildland Fire Implementation Plans (WFIP) and/or Wildfire Situation Analysis (WFSAs) of their successor documents such as the Wildland Fire Decision Support System (WFDSS) process to ensure that smoke management is addressed commensurate with fire activity and complexity **[Documentation]**; and
- (3) FLMs and DEQ will conduct ongoing public outreach efforts to keep the public informed and to provide instructions and ample opportunity for individuals to take personal actions to mitigate the effects of smoke on their health **[Education]**.

## **Management Actions**

- (1) **Contact.** Sharing information and coordinating activities among FLMs and DEQ will occur before, during, and after wildland fire incidents. Such coordination may include:
  - FLMs may make opportunities to participate in the Northern Rockies Multi-Agency Coordination Group (MAC) calls available to DEQ.
  - FLMs may make opportunities for aerial and/or field observations of wildland fires available to DEQ, when reasonably available.
  - FLMs may place portable ambient air monitors in smoke-sensitive areas as needed. FLMs should make monitoring data available to DEQ via satellite link on an hourly basis when reasonable available. FLMs may, as practicable, incorporate smoke management information as a routine subject during wildland fire activity to inform the public, incident management teams, and/or other land managers.
  - FLMs will make maps depicting eligible WFU areas available and, when feasible, will provide DEQ opportunities to review and comment on WFIPs, WFSAs, or WFDSS.
  - FLMs will make access to Stage I planning documents available to DEQ to include notification when Stage II or III planning is initiated for WFU events.

- FLMs will make available to DEQ Stage II and III planning documents for review and comment.
- FLMs and the DEQ meteorologist will jointly and routinely track smoke plume locations and smoke distribution using satellite imagery and/or other sources of remote sensing.
- DEQ will disseminate smoke advisory information about current and predicted smoke emissions to assist FLMs and the public in making informed decisions.

- (2) **Documentation.** FLMs will integrate smoke management activities into their normal procedures for developing wildland fire plans and processes. Wildland fire management teams should also be briefed to fully consider smoke management when developing plans and processes. If a wildland fire requires a WFSA or WFIP, FLMs should consider and address potential consequences of smoke on air quality and impact to the public health when developing management alternatives as required in both processes.

Examples of wildland fire plans and / or processes to integrate smoke management activities:

- Delegations of Authority for incident management.
- Wildland Fire Implementation Plan (WFIP).
- Wildland Fire Situation Analysis (WFSA).
- Wildland Fire Decision Support System (WFDSS).

- (3) **Education.** FLMs and DEQ will share the responsibility for providing proactive and adequate public information on smoke emissions from wildland fires managed under AMR before, during and after these wildland fires occur. Public information and outreach activity may include:

- Incorporating information about health effects of smoke and potential for smoke impacts from wildfires into FIREWISE-type newspaper notices and fire prevention activities.
- Using Fire Information Officers, Incident Safety Officers, fire prevention teams, and/or others to disseminate information on smoke emissions and its potential impact to public health during wildland fires.
- Identifying smoke sensitive features before the fire season, i.e., communities, recreational areas, public highways, hospitals, schools, groups at high risk for health related problems, etc., and targeting them for dissemination of information on how to prepare for smoke impacts when they may occur.

- Joint pre-planning public health mitigation scenarios, ranging from increased public education during the incident to providing respite from smoke impacts.
- Ensuring emergency response plans and actions, including state emergency episode avoidance plans, natural events action plans, and real-time website information adequately convey public notification and recommendations.
- Public education and outreach regarding the natural role of wildland fire, the effects of smoke on public health, and the actions an individual could take that might reduce personal health impacts. Such public education and outreach may include maintaining and updating website information, holding meetings in affected areas, or establishing hotlines.

## **Communication Levels**

Communication Levels are intended to provide a mechanism which trigger FLMs and DEQ to initiate potential Management Actions. These Communication Levels do not preclude more restrictive agency-specific measures nor should they preclude alternative assessments of wildland fires that may result in minimizing smoke impact on public health. The establishment of a Communication Level does not necessarily constrict the use of wildland fire as a management tool nor should its initiation add any additional unreasonable workload.

The intent of Communication Levels is to facilitate and document on forms already in use an acceptable, systematic, interagency review of smoke and to furnish the public with appropriate air quality information. The following three Communication Levels are based upon current and predicted air quality impacts on public health through a collaborative discussion between FLMs and DEQ.

### **Level 1 - Minor Impacts:**

**Assessment.** Smoke impact on public health is considered minor. Minor impacts may be characterized by the following indicators and may result in Level 1 Management Actions:

- Smoke is expected to be produced for a short period of time or is barely visible to the public;
- Smoke is not expected to exceed state or federal air quality standards;
- Decreases in visibility indicate only slight degradation of air quality that does not reach the DEQ Today's Air category of "Unhealthy for Sensitive Groups" when using the visibility ranges in Table 1 – Smoke Management in Montana on page 10.
- Members of the public, county health officials, coaches, school representatives, etc. are expressing few or no concerns about smoke;

- Regional fire Preparedness Level is at a 1 or 2; and/or
- Minimal impacts are expected to sensitive features like communities, schools, parks, airports, roadways, summer camps, outfitter camps, etc.

**Management Actions.** IF Minor Impacts occur, THEN the following Management Actions will be implemented:

- FLMs and DEQ will jointly evaluate wildland fire incident reports to monitor smoke impacts and their current and predicted air quality impacts on public health.
- FLMs will brief DEQ on current wildland fire activity and strategies based upon the best available information and assessments.
- FLMs will review emission avoidance strategies and routinely assess throughout the duration of wildland fire activity.

## **Level 2 - Moderate Impacts:**

**Assessment.** Smoke impact on public health is considered moderate. Localized impacts may be characterized by the following indicators and may result in Level 2 Management Actions:

- Some public concern for smoke impacts arises;
- Smoke is visible to the public over several days;
- Decreases in visibility indicate moderate degradation of air quality which reaches the DEQ Today's Air category of "Unhealthy for Sensitive Groups" when using the visibility ranges in Table 1 – Smoke Management in Montana on page 10;
- Vistas, roads, and some residences experience short-term decreases in visibility;
- Members of the public, county health officials, coaches, school representatives, etc. are expressing concerns about smoke;
- Health-related complaints are occurring;
- Regional fire Preparedness Level is at 3 or 4; and/or
- Smoke intrusions into sensitive features like communities, schools, parks, airports, roadways, summer camps, outfitter camps, etc. is occurring.

**Management Actions.** IF Moderate Impacts occur, THEN the following Management Actions will be implemented:

- FLMs and DEQ will evaluate wildland fire incident reports to monitor smoke impacts and begin considering possible emission avoidance strategies to protect public health now and into the future.
- FLMs will brief DEQ on current wildland fire activity and strategies based upon the best available information and assessments.
- FLMs will review emission avoidance strategies and routinely assess throughout the duration of wildland fire activity. This includes the full spectrum of AMR responses.
- FLMs will assess the potential consequences of the smoke on air quality and the impact to the public will be included in developing management alternatives in WFSAs or WFIPs as required in both processes. See 'Documentation - Management Action.'
- Once air quality improves to below the DEQ Today's Air category of "Unhealthy for Sensitive Groups" for 72 hours or more, FLMs and DEQ should re-evaluate and determine if Level 2 Management Actions should remain or if Level 1 Management Actions should be conducted.

### **Level 3 - Major Impacts:**

**Assessment.** Smoke impact on public health is considered major. Major impacts may be characterized by the following indicators and may result in Level 3 Management Actions:

- Concern for public health impacts is raised regionally;
- Situations require special and sometimes difficult smoke mitigation actions such as near wildland urban interfaces, power lines, communication towers, roadways, etc;
- Smoke is readily visible to the public and is projected to remain several days to weeks;
- Decreases in visibility indicate considerable degradation of air quality which reaches the DEQ Today's Air category of "Unhealthy" when using the visibility ranges in Table 1 – Smoke Management in Montana on page 10.
- Large segments of the public are actively expressing their concerns about smoke;
- Vistas, roads, and residences may experience long-term visibility impairment or significant, short-term visibility impairment;
- Regional fire Preparedness Level is at 4 or 5; and /or
- Major smoke intrusions may occur in smoke sensitive areas, such as hospitals and major airports, at "Unhealthy" category level and trigger adverse health effects.

**Management Actions.** IF Major Impacts occur, THEN the following Management Actions will be implemented:

- FLMs and DEQ will evaluate wildland fire incident reports on a daily basis to monitor smoke impacts and consider possible emission avoidance strategies to protect public health now and into the future.
- FLMs will brief DEQ on current wildland fire activity and strategies on a daily basis using the best available information and assessments.
- FLM and DEQ may conduct additional smoke modeling and monitoring to further evaluate potential effects of smoke impacts on specific sensitive features.
- FLMs will review emission avoidance strategies and validate daily throughout the duration of wildland fire activity. This includes the full spectrum of AMR strategies.
- FLM and DEQ may conduct additional smoke modeling and monitoring to further evaluate potential effects of smoke impacts on specific sensitive locations.
- FLMs will assess the potential consequences of the smoke on air quality and the impact to the public will be included in developing management alternatives in WFSAs or WFIPs as required in both processes. See 'Documentation - Management Action.'
- Once air quality improves to the DEQ Today's Air category of "Unhealthy for Sensitive Groups" for 72 hours or more, FLMs and DEQ should re-evaluate and determine if Level 3 Management Actions should remain or if Level 1 or 2 Management Actions should be conducted.

**TABLE 1**  
**Visibility Ranges Used to Determine Health Effects Categories\***

Smoke Management in Montana	
Visibility Ranges Used to Determine Health Effect Categories	
Visibility Range	Health Effect Category
13.4 miles and up	Good
13.3 miles to 8.8 miles	Moderate
8.7 miles to 5.1 miles	Unhealthy For Sensitive Groups
5.0 to 2.2 miles	Unhealthy
2.1 to 1.3 miles	Very Unhealthy
less than 1.3 miles	Hazardous

The procedure for making personal observation to determine the forest fire smoke index value for local areas without National Weather Station (NWS) or Department of Environmental Quality (DEQ) monitors is:

1. Face away from the sun.
2. Determine the limit of your visible range by looking for targets at known distances (miles).
3. Visible range is that point at which even high contrast objects totally disappear.
4. Use the values above to determine the local forest fire smoke category.

**\*NOTE:** Visibility ranges used to determine health effects are based upon short term impacts and are related to the hourly concentration break points. It is important to note that many hours at one level will usually result in a higher cumulative impact. If conditions have stayed more or less constant in the moderate or higher level for 8 hours the equivalent health category should be adjusted one category higher.

## **Agency Contact List**

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